

CONSTRUCTION PROJECTS:

A VIEW THROUGH THE “ENVIRONMENTAL LENS”

AGC Grading Forum
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Brooklyn Center, MN

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- ▶ Describe “how” to best engage the environmental team
- ▶ Navigate communication landmines
- ▶ Environmental Compliance and Profit
- ▶ Leave behind messages

GOALS FOR TODAY.....

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- ▶ What authority do they have?
- ▶ How do you want them to communicate?
- ▶ Are they reliable?
- ▶ Have you worked with them before?
- ▶ How do they communicate?
- ▶ Do you trust their problem-solving skills?
- ▶ Is their technical knowledge current?
- ▶ Do they understand the construction process, and timing of critical schedule steps?

THINK ABOUT WHO IS ON YOUR
TEAM?

Documentation

Contaminated
Soils

Agency
Communication/
Weekly Meetings

Regulated
Waste

NPDES
Compliance
(SWPPP, Audits,
BMP's)

Landscaping
and Final
Stabilization

Wells and
Encountered
Materials

Environmental
Compliance
Management

Vegetation
Protection/ Tree
Removal
Monitoring

Contaminated
Waters

Field Visits

Cultural
Resources

Threatened or
Endangered
Species

Materials
Testing



Interpret and apply environmental policies, procedures and laws to prepare, coordinate, and review all reports and documents relative to the project in a timely manner. Further, they should gather, analyze, and present technical data to the team, work effectively with other team members, and represent the project at various levels involving the public, client, and regulatory agencies.


The ECM should know and understand all aspects of the project. Analyze and uphold project budget and technical reports. They should know, understand, and interpret company policies, procedures, rules codes and related regulations. They are responsible for analyzing and solving program or technical issues and taking appropriate corrective action. ECM's must work both indoors and outdoors, intermittently travel and, be exposed to dust noise slippery or uneven surfaces around machinery and other vehicle sin the field. This position may be exposed to varying climates and temperatures while performing their duties.

THE ECM WORKING "FOR" YOU
SHOULD BE ABLE TO:

ENVIRONMENTAL PROJECT LIFE
CYCLES.....ARE A BIT LIKE
RELATIONSHIPS.....

**MY WIFE MADE ME
COFFEE THIS MORNING AND
WINKED AT ME WHEN SHE
HANDED ME THE CUP.**

**I'VE NEVER BEEN MORE
SCARED OF A DRINK IN ALL
OF MY LIFE.**











- ▶ Develop the purpose
- ▶ Set the goals
- ▶ Determine the key players
- ▶ Discuss task dependencies
- ▶ Be realistic on time and scale
- ▶ Adjust when needed

COMMUNICATION PLAN – PROJECT MANAGEMENT

1. Listen
2. Emphasize efficiency over speed
3. Ask Questions
4. Respect your team
5. Keep everyone in the loop

TOP 5 LIST.....

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No matter what I know, or how hard I work. The PM sets the tone for communication within the team. They know what is best for the project. My job is to remain open and willing to adapt to solutions which help the success of the project.

YOU.....SET THE TONE

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Okay, Let's Say I Want To Comply Profitably.....How?



Profit, if not planned does not occur

▶ Return on Investment

- ▶ What does environmental compliance cost your organization?

▶ Capital Investment

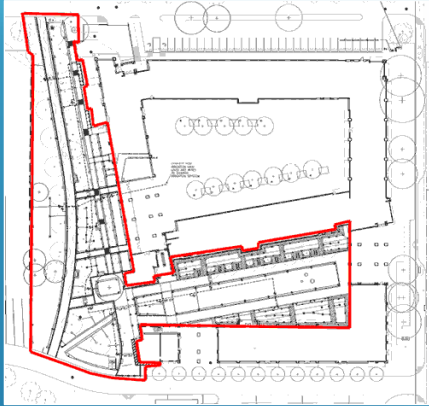
- ▶ What do you spend vs. what do you expect in return on environmental compliance?

▶ Responsibility

- ▶ Who is responsible within your organization for tracking environmental compliance risk, and how does this influence business decisions?



Business Value Chain Models



- ▶ How could you use environmental compliance to separate yourselves?
- ▶ How could environmental compliance minimize your competition?
- ▶ Do your clients value environmental compliance?
- ▶ Do you expect environmental compliance among your supply partners?

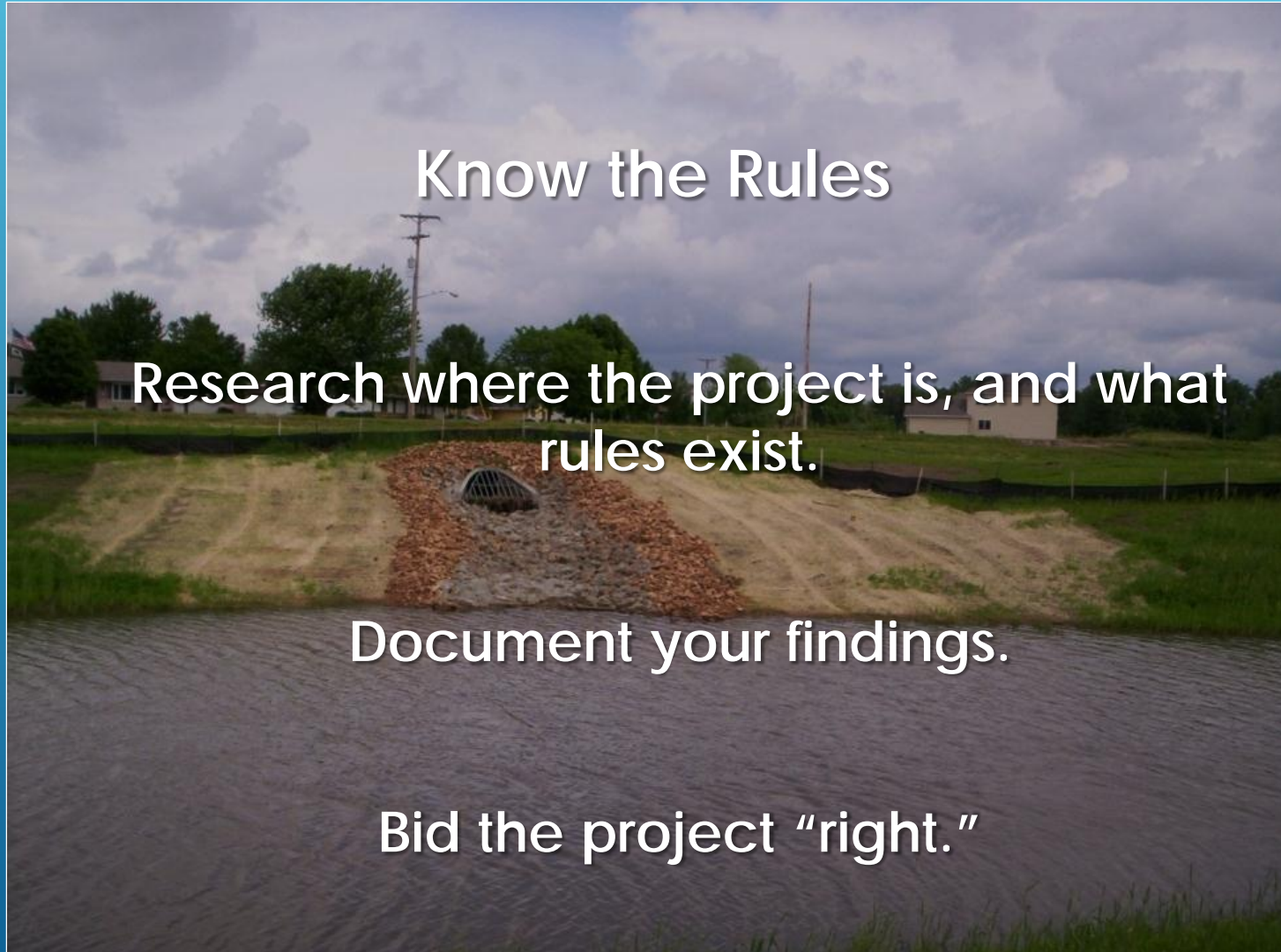
Step One

Know the Rules

Research where the project is, and what rules exist.

Document your findings.

Bid the project "right."



Step Two



Do Your Homework:

- ▶ Make a site visit.
- ▶ Research local conditions and climate.
- ▶ Select partners and subcontractors that follow environmental compliance.

Site Visit Benefits

Why Visit?:

- ▶ Soils
- ▶ Existing Vegetation.
- ▶ Drainage patterns, surrounding environments.
- ▶ Political pressures.
- ▶ Signage
- ▶ Traffic Patterns.
- ▶ Example neighboring sites.



Step Three: Agree to a SWPPP



Step Three:

- ▶ Submit a Notice of Intent.
- ▶ Set up your onsite documentation.
- ▶ Establish and document your sequence of activity.

Set Up Project Documentation Correctly



Step Four: Hold a Pre-Con

Step Four:

- ▶ Invite the regulators.
(This isn't a typo)
- ▶ Discuss schedule and sequence expectations.
- ▶ Identify site communication and compliance expectation.



Step Five: Make it Easy to Comply

Step Five:

- ▶ Perimeter control management.
- ▶ Use BMP's to manage the real problem.
- ▶ Inlets open and maintained.
- ▶ Make a plan for dewatering – plan ahead!



How Do You “Treat” Stormwater?

Water Treatment Methodology:

- ▶ Settling
- ▶ Filtration
- ▶ Polymer or flocculant treatment.
- ▶ Liquid polymer treatments.
- ▶ Solid polymer treatments with land applications or velocity check applications.



Settling

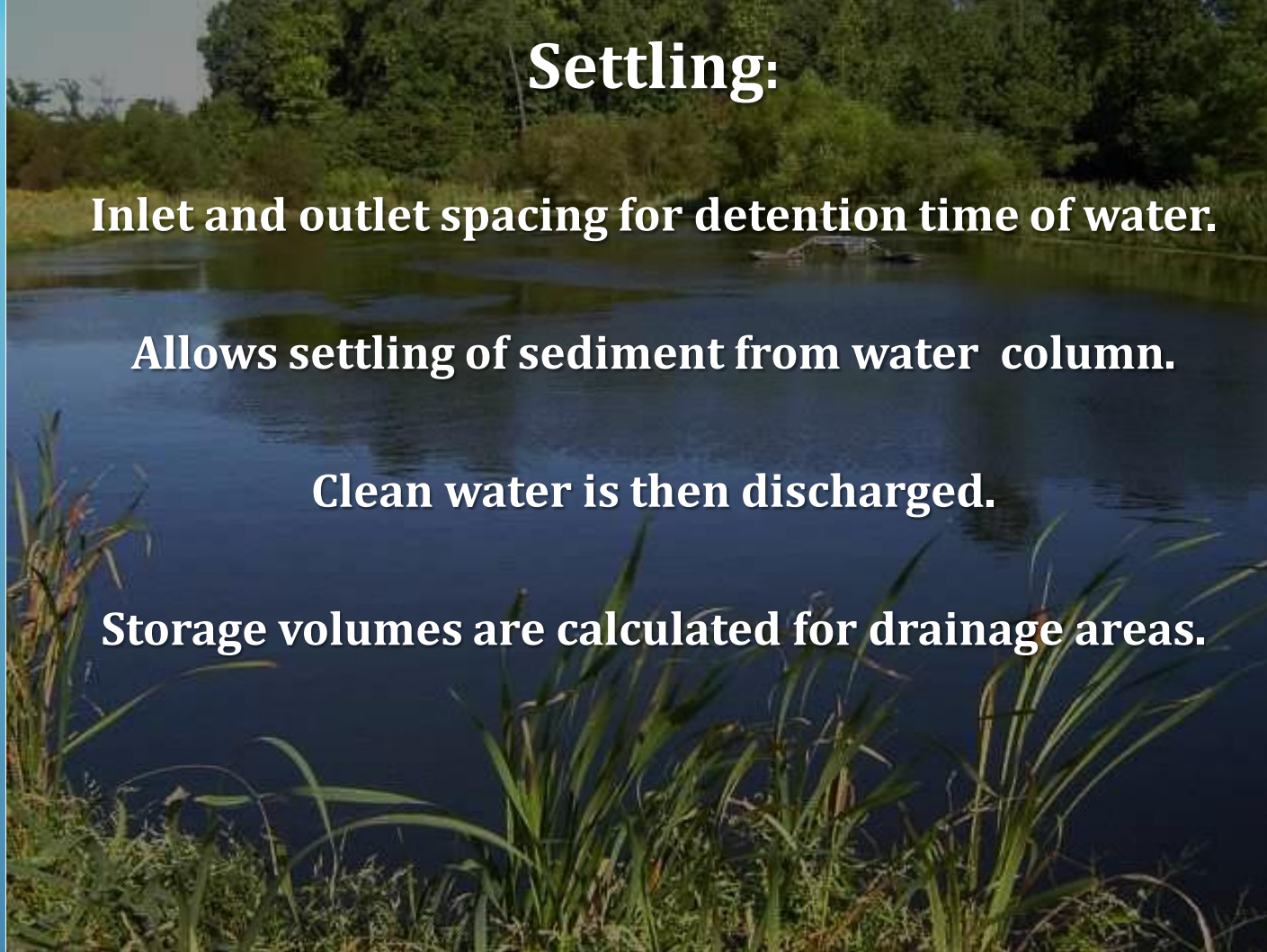
Settling:

Inlet and outlet spacing for detention time of water.

Allows settling of sediment from water column.

Clean water is then discharged.

Storage volumes are calculated for drainage areas.



Filtration

Filtration Facts:



- ▶ Equipment portable to site conditions.
- ▶ Combinations of filter media and chemical treatment to flocculate the water.
- ▶ Particles trapped during flow through process and clean water discharged.

Let's Talk Sampling



Sampling Facts:

- ▶ Representative samples can be considered for lineal projects by appropriate authorities.
- ▶ Often regulatory agencies are recommending at least 3 samples at each discharge point – local authorities may require more.
- ▶ Even if representative sampling is allowed, all discharge points will be subject to compliance **with limits.**

How Do You Sample?

Sampling Instructions:

1. Identify locations where samples will be taken and ensure compliance with regulatory standards.
2. Determine when (frequency and time) samples will be taken.
3. Document equipment calibration and record activities.
4. Synthesize how documentation and samples will be stored.
5. Record and authenticate corrective actions taken to treat runoff.
6. Provide sampling data to regulatory authority at pre-determined intervals.



Step Six: Keep Your Dirt on Your Site

Step Six:

- ▶ Pick the right blanket(know the specs for each job) and install it correctly.
- ▶ Not all mulches are the same – know what are true equals.
- ▶ Think soil samples.
- ▶ Manage stockpiles.
- ▶ Protect channelized water flow.



Blankets

Seed + blanket + staples



Mulches

Mulch

► Types:

- Hydromulch
- Straw mulch



Jeremy Balousek, P.E., Dane County Land & Water Resources

Stockpiles



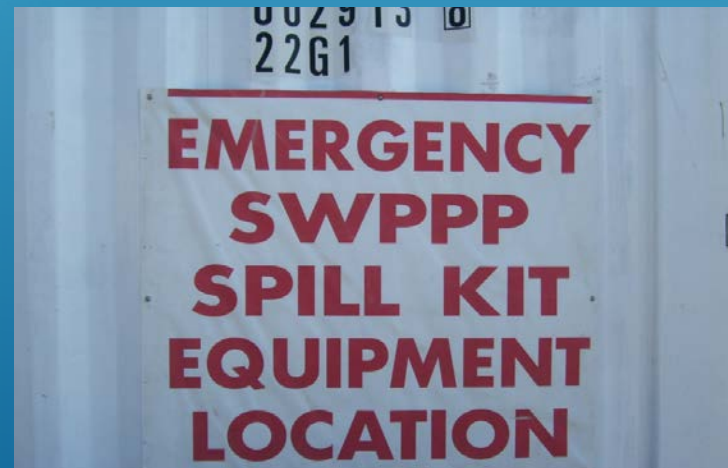
Channels



Step Seven: This Is Not Your Mother's Construction Site

Step Seven:

- ▶ Street sweeping is not a BMP.
- ▶ Concrete Wash Out Systems.
- ▶ Equipment & Leaks.



Entrance and Exit Points



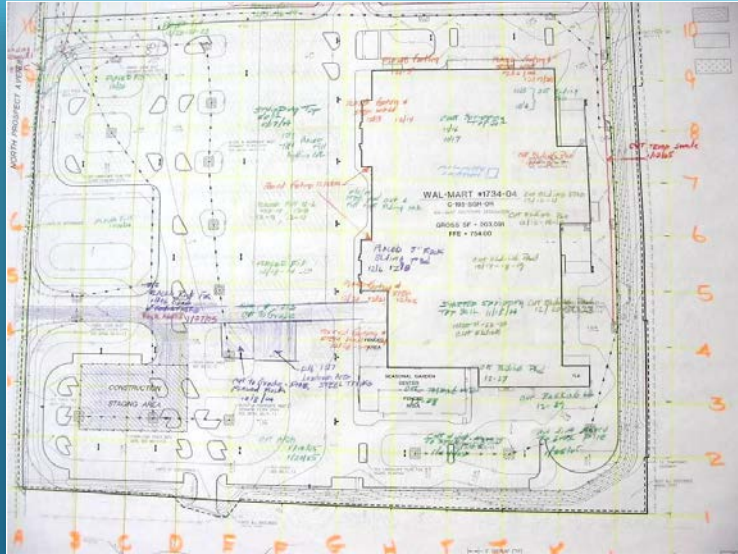
Concrete Washout



Equipment Maintenance



Step Eight: Tell Your Story



Step Eight:

- ▶ Document changes
- ▶ Inspection Checklists
- ▶ Corrective Action Notices
- ▶ Photo Documentation
- ▶ Litigation Steps

Documentation

DR-HORTON America's Builder Site Inspection Checklist

Site Name: _____ City: _____ Addition/Phase: _____
 Builder: _____ ESC Subcontractor: _____
 Date(s): _____ Time: _____ Date/Amount of Last Event: _____ / _____"
 Inspector: _____ Photos Taken? Yes/No

1. General / Compliance	YES	NO	N/A
a. Was There A Sediment Discharge To "Water of the State" or Off-site?			
b. Incidents of Non-compliance With NPDES Permit Requirements?			
c. All Logs Up-To-Date? (Inspection, Maintenance, etc.)			
2. General / Site Conditions	YES	NO	N/A
a. Sediment In: Streets, Curb/Gutter, Inlets/Pipes, Adjacent Property?			
b. Debris, Trash, Brush, or other construction site waste on site?			
c. Damaging Flow From Off-Site causing washouts?			
d. Hazardous Material Spills Since Last Inspection? Vehicles, Equipment			
e. Secondary Containment Needed for Hazardous Materials on site?			
f. Equipment/Vehicle Maintenance, Washout Areas In-place/Utilized/Maintained?			
3. Site Management	YES	NO	N/A
a. Unprotected stockpiles or stockpiles on street/curb and gutter?			
b. Concrete Washouts Acceptable, Maintained?			
c. Rock Construction Entrances In-Place? Functional? Need Maintenance?			
d. Subcontractor Activity Causing Damage? (Irrigation, Sidewalk, Forklifts, etc.)			
e. Bare Idle Lots not stabilized? Final Establishment Needed?			
f. Street Sweeping, Scraping Needed?			
g. Dust Control Needed?			
h. BMP Materials Acceptable At Delivery?			
i. Perimeter Control, Inlet Protection Should be Removed in Stabilized Areas?			
4. Perimeter Control / Inlet Protection BMPs	YES	NO	N/A
a. Inadequate Installation Type and/or Amount of Material?			
b. Sed Filled? Blow-outs? Torn/Pushed-over/Destroyed? Under-Draining?			
c. Inadequate For Catchment Area? Silt Fence Runs Too Long? 3-hooks Needed?			
d. Curb/Gutter Inlet Protection Missing or Inappropriate for Phase?			
e. Back Yard Drop Inlet Protection Missing or Inappropriate for Phase?			
f. All Inlet Protection Needs Maintenance?			
g. Pond/ Wetland/Stream Silt Fence Needs Maintenance?			

DR-HORTON America's Builder Site Inspection Checklist

5. Slopes	YES	NO	N/A
a. Unstabilized Slopes need Vegetation or Temporary Cover? (Mulch)			
b. Unbroken Exposed Slopes Lengths Over 75 Feet Unprotected?			
c. Slopes 3:1 or Steeper Need Blanket or Hydro mulch?			
d. Soil Inadequately Prepped For Vegetative Cover Installation?			
e. Temporary Slope Drains Needed, Not Functioning, or Not Maintained?			
f. Pond Side Slopes Have Washouts?			
6. Maintenance	YES	NO	N/A
a. ESC Subcontractor Not On-Schedule? Inappropriate Equipment, Manpower?			
b. Previously Requested Maintenance Not Completed or Inadequate?			
c. Sanitary Facilities, Dumpster's Maintained On-Schedule? Adequately?			
7. Exposed Soil / Vegetation Establishment	YES	NO	N/A
a. Areas of Exposed Soil? Finished Lots Not Stabilized?			
b. Poor Seed To Soil Contact?			
c. Temp Veg Inadequate? Bare Spots?			
d. Seed Application Rate Inadequate?			
e. Irrigation/Watering Needed?			
8. BMP Installation	YES	NO	N/A
a. Blanket Needed In Swale, Ditch Bottoms?			
b. Blanket Not Trenched In at Top of Slope?			
c. Blanket Installation Inadequate? (Poor Soil Contact, Wrong Direction, etc.)			
d. Ditch Checks Needed in Swale, Ditch Bottoms?			
e. Ditch Check Installation Inadequate? (Material, Spacing, End-Around Potential)			
f. Straw Mulch Not Spread To 90% Coverage? Shadowed Hydro mulch?			
g. Straw Mulch Not Crimped or Disc'd?			
h. Pond Inlet/Outlet/EOF Not Stabilized? Energy Dissipation In-Place?			
i. Temporary Sediment or Water Traps Needed? In-place? Maintained?			
Comments, Observations... (Any Issues hindering Stormwater Compliance?)			

Checklists



Inspector: _____ Photos Taken? Yes/No _____

1. General / Compliance	YES	NO	N/A
a. Was There A Sediment Discharge To "Water of the State" or Off-site?			
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c. All Logs Up-To-Date? (Inspection, Maintenance, etc.)			
2. General / Site Conditions	YES	NO	N/A
a. Sediment In: Streets, Curb/Gutter, Inlets/Pipes, Adjacent Property?			
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Corrective Action Notices



Request for Corrective Action



Site Name: _____ Addition/Phase: _____
Builder: _____ ESC Subcontractor: _____
Inspector: _____

Item#	Description	Resp Person	Action Taken (Phone, Fax, Mail, Verbal Request)	Date

USE ADDITIONAL PAGES IF NECESSARY

Request for Corrective Action

When Should I Take Pictures?



- ▶ Whenever you have impacts to a water of the state.
- ▶ When you are in disagreement over a compliance issue.
- ▶ When you “catch” a sub-contractor in violation of compliance.
- ▶ When you suspect an upcoming issue of concern.

Step Nine: Stabilize As You Go

- ▶ Dirt: get a soil test.
- ▶ Seed: Use the right type.
- ▶ Fertilizer: Apply only what you need.
- ▶ Cover: Cheap insurance.



Step Ten: Tidy Up and Get Out



- ▶ Take out your BMP's.
- ▶ Signage & Documentation.
- ▶ Notice of Termination (NOT).
- ▶ Thank you's and leave behind messages.


Would You Hire This Contractor Again?



Remember These Profit Plans.....

1. Know the rules.
 2. Do your homework.
 3. Agree to a SWPPP.
 4. Hold a Pre-Con.
 5. Make it easy to comply.
 6. Keep your dirt on your own site.
 7. This isn't your mother's construction site (Haz. Mat'l).
 8. Tell your story.
 9. Stabilize as you go.
 10. Tidy up...and get out.
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REMEMBER..... THESE PROFIT DRIVEN COMMUNICATION TIPS:

1. Listen
 2. Emphasize efficiency over speed
 3. Ask Questions
 4. Respect your team
 5. Keep everyone in the loop
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